#5

CB

PCT10

#9

RAW SEQUENCE LISTING DATE: 01/30/2003
PATENT APPLICATION: **US/10/088,960** TIME: 12:19:07

Input Set : **A:\EP.txt**
Output Set: **N:\CRF4\01302003\J088960.raw**

<110> APPLICANT: Luo, Ying
Mancebo, Halena
<120> TITLE OF INVENTION: NOVEL SYK KINASE-ASSOCIATED CELL CYCLE PROTEINS, COMPOSITIONS, AND
METHODS OF USE
<130> FILE REFERENCE: A-68412-1/RMS/DHR
<140> CURRENT APPLICATION NUMBER: US 10/088,960
<141> CURRENT FILING DATE: 2002-03-22
<150> PRIOR APPLICATION NUMBER: US 09/404,967
<151> PRIOR FILING DATE: 1999-09-24
<150> PRIOR APPLICATION NUMBER: PCT/US 00/26338
<151> PRIOR FILING DATE: 2000-09-25
<160> NUMBER OF SEQ ID NOS: 12
<170> SOFTWARE: PatentIn version 3.1
<210> SEQ ID NO: 1
<211> LENGTH: 3955
<212> TYPE: DNA
<213> ORGANISM: Homo sapiens
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (1473)..(1473)
<223> OTHER INFORMATION: "n" at position 1473 can be any base.
<400> SEQUENCE: 1

p.6

ENTERED

cggcagcaaa ggaacgtgcg aacgcgtgac gccgcccgac tggctcgcgc tctcccgtgc 60
cccggcgtcc tccgcccgct catggcccgg gccgccgcgg acgagcggcg ctgaggcggg 120
ccgcgtggag acgtgaggcg gccgccgtgg ccctcacagt cggcgtttcg ccgcctgccc 180
gcggtgcccg cgcacgcctg ccgccatcgc cttcgcgcct ggctggcggg ggcgctgtcc 240
tcccaggccg tccgcgccgc tccctggagc tcggcggagc gcggcagcca gggccggcgg 300
aggcgcgagg agccgggcgc caccgccgcc gccgccgccg ccgccgcggg ggccatgacc 360
gtggagcaga acgtgctgca gcagagcgcg gcgcagaagc accagcagac gtttttgaat 420
caactgagag aaattacggg gattaatgac acccagatac tacagcaagc cttgaaggat 480
agtaatggaa acttggaatt agcagtggct ttccttactg cgaagaatgc taagacccct 540
cagcaggagg agacaactta ctaccaaaca gcacttcctg gcaatgatag atacatcagt 600
gtgggaagcc aagcagatac aaatgtgatt gatctcactg gagatgataa agatgatctt 660
cagagaacaa ttgccttgag tttggccgaa tcaaacaggg cattcaggga gactggaata 720
actgatgagg aacaagccat tagcagagtt cttgaagcca gtatagcaga gaataaagca 780
tgtttgaaga ggacacctac agaagtttgg agggattctc gaaaccctta tgatagaaaa 840
agacaggaca aagctcccgt tgggctaaag aatgttggca atacttgttg gtttagtgct 900
gttattcagt cattatttaa tcttttggaa tttagaagat tagttctgaa ttacaagcct 960
ccatcaaatg ctcaagattt accccgaaac caaaaggaac atcggaattt gccttttatg 1020
cgtgagctga ggtatctatt tgcacttctt gttggtacca aaaggaagta tgttgatcca 1080
tcaagagcag ttgaaattct taaggatgct ttcaaatcaa atgactcaca gcagcaagat 1140
gtgagtgagt ttacacacaa attattagat tggttagaag atgccttcca aatgaaagct 1200
gaagaggaga cggatgaaga gaagccaaag aaccccatgg tagagttgtt ctatggcaga 1260

RAW SEQUENCE LISTING DATE: 01/30/2003
PATENT APPLICATION: **US/10/088,960** TIME: 12:19:07

Input Set : **A:\EP.txt**
Output Set: **N:\CRF4\01302003\J088960.raw**

78 ttcctggctg tgggagtact tgaaggtaaa aaatttgaaa acactgaaat gtttggtcag 1320
80 tacccacttc aggtcaatgg gttcaaagat ctgcatgagt gcctagaagc tgcaatgatt 1380
82 gaaggagaaa ttgagtcttt acattcagag aattcaggaa aatcaggcca agagcattgg 1440
W--> **84 tttactggat taccacctgt gttaacattt ganttgtcaa gatttgaatt taatcaggca 1500**
86 ttgggaagac cagaaaaaat tcacaacaaa ttagaatttc cccaagtttt atatttggac 1560
88 agatacatgc acagaaacag agaaataaca agaattaaga gggaagagat caagagactg 1620
90 aaagattacc tcacggtatt acaacaaagg ctagaaagat atttaagcta tggttccggt 1680
92 cccaaacgat tccccttggt agatgttctt cagtatgcat tggaatttgc ctcaagtaaa 1740
94 cctgtttgca cttctcctgt tgacgatatt gacgctagtt ccccacctag tggttccata 1800
96 ccatcacaga cattaccaag cacaacagaa caacagggag ccctatcttc agaactgcca 1860
98 agcacatcac cttcatcagt tgctgccatt tcatcgagat cagtaataca caaaccattt 1920
100 actcagtccc ggatacctcc agatttgccc atgcatccgg caccaaggca cataacggag 1980
102 gaagaacttt ctgtgctgga aagttgttta catcgctgga ggacagaaat agaaaatgac 2040
104 accagagatt tgcaggaaag catatccaga atccatcgaa caattgaatt aatgtactct 2100
106 gacaaatcta tgatacaagt tccttatcga ttacatgccg ttttagttca cgaaggccaa 2160
108 gctaatgctg ggcactactg ggcatatatt tttgatcatc gtgaaagcag atggatgaag 2220
110 tacaatgata ttgctgtgac aaaatcatca tgggaagagc tagtgaggga ctcttttggt 2280
112 ggttatagaa atgccagtgc atactgttta atgtacataa atgataaggc acagttccta 2340
114 atacaagagg agtttaataa agaaactggg cagccccttg ttggtataga aacattacca 2400
116 ccggatttga gagattttgt tgaggaagac aaccaacgat ttgaaaaaga actagaagaa 2460
118 tgggatgcac aacttgccca gaaagctttg caggaaaagc ttttagcgtc tcagaaattg 2520
120 agagagtcag agacttctgt gacaacagca caagcagcag gagacccaga atatctagag 2580
122 cagccatcaa gaagtgattt ctcaaagcac ttgaaagaag aaactattca aataattacc 2640
124 aaggcatcac atgagcatga agataaaagt cctgaaacag ttttgcagtc ggcaattaag 2700
126 ttggaatatg caaggttggt taagttggcc caagaagaca ccccaccaga aaccgattat 2760
128 cgtttacatc atgtagtggt ctactttatc cagaaccagg caccaaagaa aattattgag 2820
130 aaaacattac tagaacaatt tggagataga aatttgagtt ttgatgaaag gtgtcacaac 2880
132 ataatgaaag ttgctcaagc caaactggaa atgataaaac ctgaagaagt aaacttggag 2940
134 gaatatgagg agtggcatca ggattatagg aaattcaggg aaacaactat gtatctcata 3000
136 attgggctag aaaattttca aagagaaagt tatatagatt ccttgctgtt cctcatctgt 3060
138 gcttatcaga ataacaaaga actcttgtct aaaggcttat acagaggaca tgatgaagaa 3120
140 ttgatatcac attatagaag agaatgtttg ctaaaattaa atgagcaagc cgcagaactc 3180
142 ttcgaatctg gagaggatcg agaagtaaac aatggtttga ttatcatgaa tgagtttatt 3240
144 gtcccatttt tgccattatt actggtggat gaaatggaag aaaaggatat actagctgta 3300
146 gaagatatga gaaatcgatg gtgttcctac cttggtcaag aaatggaacc acacctccaa 3360
148 gaaaagctga cagatttttt gccaaaactg cttgattgtt ctatggagat taaaagtttc 3420
150 catgagccac cgaagttacc ttcatattcc acgcatgaac tctgtgagcg atttgcccga 3480
152 atcatgttgt ccctcagtcg aactcctgct gatggaagat aaactgcaca ctttccctga 3540
154 acacactgta taaactcttt ttagttctta acccttgcct tcctgtcaca gggtttgctt 3600
156 gttgctgcta tagtttttaa ctttttttta ttttaataac tgcaaaagac aaaatgacta 3660
158 tacagacttt agtcagactg cagacaataa agctgaaaat cgcatggcgc tcagacattt 3720
160 taaccggaac tgatgtataa tcacaaatct aattgatttt attatggcaa aactatgctt 3780
162 ttgccacctt cctgttgcag tattactttg cttttatctt ttctttctca acagctttcc 3840
164 attcagtctg gatccttcca tgactacagc catttaagtg ttcagcactg tgtacgatac 3900
166 ataatatttg gtagcttgta aatgaaataa agaataaagt tttatttatg gctac 3955
169 <210> SEQ ID NO: 2
170 <211> LENGTH: 1055
171 <212> TYPE: PRT
172 <213> ORGANISM: Homo sapiens

RAW SEQUENCE LISTING DATE: 01/30/2003
PATENT APPLICATION: **US/10/088,960** TIME: 12:19:07

Input Set : **A:\EP.txt**
Output Set: **N:\CRF4\01302003\J088960.raw**

```
174 <220> FEATURE:
175 <221> NAME/KEY: MISC_FEATURE
176 <222> LOCATION: (373)..(373)
177 <223> OTHER INFORMATION: "Xaa" at position 373 can be any amino acid.
180 <400> SEQUENCE: 2
182 Met Thr Val Glu Gln Asn Val Leu Gln Gln Ser Ala Ala Gln Lys His
183 1               5                  10                  15
186 Gln Gln Thr Phe Leu Asn Gln Leu Arg Glu Ile Thr Gly Ile Asn Asp
187             20                  25                  30
190 Thr Gln Ile Leu Gln Gln Ala Leu Lys Asp Ser Asn Gly Asn Leu Glu
191         35                  40                  45
194 Leu Ala Val Ala Phe Leu Thr Ala Lys Asn Ala Lys Thr Pro Gln Gln
195     50                  55                  60
198 Glu Glu Thr Thr Tyr Tyr Gln Thr Ala Leu Pro Gly Asn Asp Arg Tyr
199 65                  70                  75                  80
202 Ile Ser Val Gly Ser Gln Ala Asp Thr Asn Val Ile Asp Leu Thr Gly
203                 85                  90                  95
206 Asp Asp Lys Asp Asp Leu Gln Arg Thr Ile Ala Leu Ser Leu Ala Glu
207             100                 105                 110
210 Ser Asn Arg Ala Phe Arg Glu Thr Gly Ile Thr Asp Glu Glu Gln Ala
211         115                 120                 125
214 Ile Ser Arg Val Leu Glu Ala Ser Ile Ala Glu Asn Lys Ala Cys Leu
215     130                 135                 140
218 Lys Arg Thr Pro Thr Glu Val Trp Arg Asp Ser Arg Asn Pro Tyr Asp
219 145                 150                 155                 160
222 Arg Lys Arg Gln Asp Lys Ala Pro Val Gly Leu Lys Asn Val Gly Asn
223                 165                 170                 175
226 Thr Cys Trp Phe Ser Ala Val Ile Gln Ser Leu Phe Asn Leu Leu Glu
227             180                 185                 190
230 Phe Arg Arg Leu Val Leu Asn Tyr Lys Pro Pro Ser Asn Ala Gln Asp
231         195                 200                 205
234 Leu Pro Arg Asn Gln Lys Glu His Arg Asn Leu Pro Phe Met Arg Glu
235     210                 215                 220
238 Leu Arg Tyr Leu Phe Ala Leu Leu Val Gly Thr Lys Arg Lys Tyr Val
239 225                 230                 235                 240
242 Asp Pro Ser Arg Ala Val Glu Ile Leu Lys Asp Ala Phe Lys Ser Asn
243                 245                 250                 255
246 Asp Ser Gln Gln Gln Asp Val Ser Glu Phe Thr His Lys Leu Leu Asp
247             260                 265                 270
250 Trp Leu Glu Asp Ala Phe Gln Met Lys Ala Glu Glu Glu Thr Asp Glu
251         275                 280                 285
254 Glu Lys Pro Lys Asn Pro Met Val Glu Leu Phe Tyr Gly Arg Phe Leu
255     290                 295                 300
258 Ala Val Gly Val Leu Glu Gly Lys Lys Phe Glu Asn Thr Glu Met Phe
259 305                 310                 315                 320
262 Gly Gln Tyr Pro Leu Gln Val Asn Gly Phe Lys Asp Leu His Glu Cys
263                 325                 330                 335
266 Leu Glu Ala Ala Met Ile Glu Gly Glu Ile Glu Ser Leu His Ser Glu
267             340                 345                 350
```

RAW SEQUENCE LISTING DATE: 01/30/2003
PATENT APPLICATION: **US/10/088,960** TIME: 12:19:07

Input Set : **A:\EP.txt**
Output Set: **N:\CRF4\01302003\J088960.raw**

```
    270 Asn Ser Gly Lys Ser Gly Gln Glu His Trp Phe Thr Gly Leu Pro Pro
    271         355                 360                 365
W--> 274 Val Leu Thr Phe Xaa Leu Ser Arg Phe Glu Phe Asn Gln Ala Leu Gly
    275     370                 375                 380
    278 Arg Pro Glu Lys Ile His Asn Lys Leu Glu Phe Pro Gln Val Leu Tyr
    279 385                 390                 395                 400
    282 Leu Asp Arg Tyr Met His Arg Asn Arg Glu Ile Thr Arg Ile Lys Arg
    283                 405                 410                 415
    286 Glu Glu Ile Lys Arg Leu Lys Asp Tyr Leu Thr Val Leu Gln Gln Arg
    287             420                 425                 430
    290 Leu Glu Arg Tyr Leu Ser Tyr Gly Ser Gly Pro Lys Arg Phe Pro Leu
    291         435                 440                 445
    294 Val Asp Val Leu Gln Tyr Ala Leu Glu Phe Ala Ser Ser Lys Pro Val
    295     450                 455                 460
    298 Cys Thr Ser Pro Val Asp Asp Ile Asp Ala Ser Ser Pro Pro Ser Gly
    299 465                 470                 475                 480
    302 Ser Ile Pro Ser Gln Thr Leu Pro Ser Thr Thr Glu Gln Gln Gly Ala
    303                 485                 490                 495
    306 Leu Ser Ser Glu Leu Pro Ser Thr Ser Pro Ser Ser Val Ala Ala Ile
    307             500                 505                 510
    310 Ser Ser Arg Ser Val Ile His Lys Pro Phe Thr Gln Ser Arg Ile Pro
    311         515                 520                 525
    314 Pro Asp Leu Pro Met His Pro Ala Pro Arg His Ile Thr Glu Glu Glu
    315     530                 535                 540
    318 Leu Ser Val Leu Glu Ser Cys Leu His Arg Trp Arg Thr Glu Ile Glu
    319 545                 550                 555                 560
    322 Asn Asp Thr Arg Asp Leu Gln Glu Ser Ile Ser Arg Ile His Arg Thr
    323                 565                 570                 575
    326 Ile Glu Leu Met Tyr Ser Asp Lys Ser Met Ile Gln Val Pro Tyr Arg
    327             580                 585                 590
    330 Leu His Ala Val Leu Val His Glu Gly Gln Ala Asn Ala Gly His Tyr
    331         595                 600                 605
    334 Trp Ala Tyr Ile Phe Asp His Arg Glu Ser Arg Trp Met Lys Tyr Asn
    335     610                 615                 620
    338 Asp Ile Ala Val Thr Lys Ser Ser Trp Glu Glu Leu Val Arg Asp Ser
    339 625                 630                 635                 640
    342 Phe Gly Gly Tyr Arg Asn Ala Ser Ala Tyr Cys Leu Met Tyr Ile Asn
    343                 645                 650                 655
    346 Asp Lys Ala Gln Phe Leu Ile Gln Glu Glu Phe Asn Lys Glu Thr Gly
    347             660                 665                 670
    350 Gln Pro Leu Val Gly Ile Glu Thr Leu Pro Pro Asp Leu Arg Asp Phe
    351         675                 680                 685
    354 Val Glu Glu Asp Asn Gln Arg Phe Glu Lys Glu Leu Glu Glu Trp Asp
    355     690                 695                 700
    358 Ala Gln Leu Ala Gln Lys Ala Leu Gln Glu Lys Leu Leu Ala Ser Gln
    359 705                 710                 715                 720
    362 Lys Leu Arg Glu Ser Glu Thr Ser Val Thr Thr Ala Gln Ala Ala Gly
    363                 725                 730                 735
    366 Asp Pro Glu Tyr Leu Glu Gln Pro Ser Arg Ser Asp Phe Ser Lys His
```

RAW SEQUENCE LISTING DATE: 01/30/2003
PATENT APPLICATION: US/10/088,960 TIME: 12:19:07

Input Set : A:\EP.txt
Output Set: N:\CRF4\01302003\J088960.raw

```
367             740                 745                 750
370 Leu Lys Glu Glu Thr Ile Gln Ile Ile Thr Lys Ala Ser His Glu His
371         755                 760                 765
374 Glu Asp Lys Ser Pro Glu Thr Val Leu Gln Ser Ala Ile Lys Leu Glu
375     770                 775                 780
378 Tyr Ala Arg Leu Val Lys Leu Ala Gln Glu Asp Thr Pro Pro Glu Thr
379 785                 790                 795                 800
382 Asp Tyr Arg Leu His His Val Val Val Tyr Phe Ile Gln Asn Gln Ala
383                 805                 810                 815
386 Pro Lys Lys Ile Ile Glu Lys Thr Leu Leu Glu Gln Phe Gly Asp Arg
387             820                 825                 830
390 Asn Leu Ser Phe Asp Glu Arg Cys His Asn Ile Met Lys Val Ala Gln
391         835                 840                 845
394 Ala Lys Leu Glu Met Ile Lys Pro Glu Glu Val Asn Leu Glu Glu Tyr
395     850                 855                 860
398 Glu Glu Trp His Gln Asp Tyr Arg Lys Phe Arg Glu Thr Thr Met Tyr
399 865                 870                 875                 880
402 Leu Ile Ile Gly Leu Glu Asn Phe Gln Arg Glu Ser Tyr Ile Asp Ser
403                 885                 890                 895
406 Leu Leu Phe Leu Ile Cys Ala Tyr Gln Asn Asn Lys Glu Leu Leu Ser
407             900                 905                 910
410 Lys Gly Leu Tyr Arg Gly His Asp Glu Glu Leu Ile Ser His Tyr Arg
411         915                 920                 925
414 Arg Glu Cys Leu Leu Lys Leu Asn Glu Gln Ala Ala Glu Leu Phe Glu
415     930                 935                 940
418 Ser Gly Glu Asp Arg Glu Val Asn Asn Gly Leu Ile Ile Met Asn Glu
419 945                 950                 955                 960
422 Phe Ile Val Pro Phe Leu Pro Leu Leu Leu Val Asp Glu Met Glu Glu
423                 965                 970                 975
426 Lys Asp Ile Leu Ala Val Glu Asp Met Arg Asn Arg Trp Cys Ser Tyr
427             980                 985                 990
430 Leu Gly Gln Glu Met Glu Pro His  Leu Gln Glu Lys Leu  Thr Asp Phe
431         995                 1000                1005
434 Leu Pro  Lys Leu Leu Asp Cys  Ser Met Glu Ile Lys  Ser Phe His
435     1010                1015                1020
438 Glu Pro  Pro Lys Leu Pro Ser  Tyr Ser Thr His Glu  Leu Cys Glu
439     1025                1030                1035
442 Arg Phe  Ala Arg Ile Met Leu  Ser Leu Ser Arg Thr  Pro Ala Asp
443     1040                1045                1050
446 Gly Arg
447     1055
450 <210> SEQ ID NO: 3
451 <211> LENGTH: 4015
452 <212> TYPE: DNA
453 <213> ORGANISM: Homo sapiens
455 <220> FEATURE:
456 <221> NAME/KEY: misc_feature
457 <222> LOCATION: (1473)..(1473)
458 <223> OTHER INFORMATION: "n" at position 1473 can be any base.
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 01/30/2003
PATENT APPLICATION: **US/10/088,960** TIME: 12:19:08

Input Set : **A:\EP.txt**
Output Set: **N:\CRF4\01302003\J088960.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 1473
Seq#:2; Xaa Pos. 373
Seq#:3; N Pos. 1473
Seq#:4; Xaa Pos. 373
Seq#:5; Xaa Pos. 373

Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:6,7